

WHAT IS CLAIMED IS:

5 1. Isolated DNA coding for the *MmeI* restriction enzyme, wherein the isolated DNA is obtainable from *Methylophilus methylotrophus*.

10 2. A recombinant DNA vector comprising a vector into which a DNA segment coding for the *MmeI* has been inserted.

15 3. Isolated DNA coding for the *MmeI* endonuclease and *MmeI*/methyltransferase, wherein the isolated DNA is obtainable from ATCC Accession No. PTA-4521.

20 4. Vectors that comprise the isolated DNA of claim 3.

25 5. A host cell transformed by the vector of claim 2 or 4.

25 6. A method of producing recombinant *MmeI* restriction endonuclease and *MmeI* methylase comprising culturing a host cell transformed with the vector of claims 2 or 4 under conditions suitable for expression of said endonuclease and methylase.

30 7. Isolated DNA coding for an *MmeI*-like restriction enzyme, wherein said isolated DNA hybridizes to at least one conserved motif of the nucleotide sequence coding for the *MmeI* restriction enzyme under predetermined conditions.